

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended) A detector for determining the presence of an oligonucleotide an oligonucleotide target having a target nucleotide sequence comprising;  
an electrode capable of sensing redox events in a redox moiety and  
an oligonucleotide probe immobilized on the electrode,  
with ~~at least one of the target and~~ the probe comprising a redox moiety, the probe having a probe nucleotide sequence which hybridizes with the target nucleotide sequence and,  
in the absence of hybridization between the target and the probe, at least one redox moiety being located in a first position relative to the electrode and, in the presence of hybridization between the target and the probe, said at least one redox moiety being located in a second position relative to the electrode, said first and second positions giving rise to distinguishable redox events detectable by the electrode wherein the second position is closer to the electrode than the first position.

Claims 2-6 (canceled).

7. (currently amended) The detector of claim 5 1 wherein the probe is immobilized on the electrode at a position distant from the redox moiety.

8. (original) The detector of claim 1 wherein the electrode is capable of inducing redox events in the redox moiety.

Claims 9-11 (canceled).

12. (original) The detector of claim 1 wherein the second configuration comprises internal hybridization between two regions in the probe.

13. (original) The detector of claim 1 wherein the second configuration comprises a loop comprising a region of the target and a region of the probe.

14. (original) The detector of claim 1 wherein the electrode comprises a metal.
15. (original) The detector of claim 14 wherein the metal is gold.
16. (original) The detector of claim 1 wherein the redox moiety is selected from the group consisting of purely organic redox labels, viologen, anthraquinone, ethidium bromide, daunomycin, methylene blue, and their derivatives, organo-metallic redox labels, ferrocene, ruthenium, bis-pyridine, tris-pyridine, bis-imidazole, and their derivatives, and biological redox labels, cytochrome c, plastocyanin, and cytochrome c'.

Claims 17-24 (canceled).

25. (currently amended) A detector for determining the presence of a a an oligonucleotide target having a target nucleotide sequence said detector comprising;

an electrode capable of sensing redox events in a redox moiety and  
an oligonucleotide probe comprising a first region, a second region and a third region,  
the first region being immobilized upon or proximate to the electrode,  
the third region being bound to a redox moiety,  
the second region being present in the probe intermediate the first and third regions and  
comprising a first nucleotide sequence which is complementary to and spaced apart from a  
second nucleotide sequence with which it self hybridizes to form a first loop which positions the  
redox moiety a first distance from the electrode, said first nucleotide sequence also hybridizing  
with the target nucleotide sequence in the target, such hybridizing with the target disrupting the  
first loop and permitting complementary nucleotide sequences in the second region to self  
hybridize to form a second loop which positions the redox moiety a second distance from the  
electrode, said first and second distances giving rise to distinguishable redox events detectable by  
the electrode ~~wherein the second distance is shorter than the first distance~~.

Claims 26-27 (canceled).

28. (original) The detector of claim 25 additionally comprising a detector for detecting electron transduction between the electrode and the redox moiety when the second loop is formed.

29. (original) The detector of claim 28 additionally comprising an indicator for inducing electron transduction between the electrode and the redox moiety when the second loop is formed.
30. (original) The detector of claim 29 wherein the first region is at one end of the probe.
31. (original) The detector of claim 29 wherein the third region is at the second end of the probe.
32. (previously presented) The detector of claim 25 wherein the electrode comprises a metal.
33. (previously presented) The detector of claim 32 wherein the metal is gold.
34. (original) The detector of claim 33 wherein the redox moiety is selected from the group consisting of purely organic redox labels, such as viologen, anthraquinone, ethidium bromide, daunomycin, methylene blue, and their derivatives, organo-metallic redox labels, such as ferrocene, ruthenium, bis-pyridine, tris-pyridine, bis-imidazole, and their derivatives, and biological redox labels, such as cytochrome c, plastocyanin, and cytochrome.

Claims 35-38 (canceled).